UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,049,761 B2

APPLICATION NO: 09/782,375 Page 1 of 12

DATED : May 23, 2006

INVENTOR(S): Memduh Guney, et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Delete the title page and substitute therefore the attached title page.

Delete Drawings Sheets 1-10 and substitute therefore the attached Drawings Sheets 1-10.

Column 5, Line 63; In claim 1, delete "circuit," and insert -- circuit; --, therefor.

Column 5, Line 64; In claim 1, delete "an" and insert - on -, therefor.

Column 6, Line 1; In claim 2, delete "tube" and insert -- device --, therefor.

Column 6, Line 4; In claim 2, delete "first" and insert -- pair --, therefor.

Column 6, Line 51; In claim 10, delete "illumination" and insert – illuminating –, therefor.

Column 8, Line 3; In claim 19, delete "a" and insert - an -, therefor.

Column 8, Line 3; In claim 19, delete "envelope," and insert -- envelope; --, therefor.



(12) United States Patent

Timmermans et al.

(10) Patent No.:

US 7,049,761 B2

(45) Date of Patent:

May 23, 2006

(54) LIGHT TUBE AND POWER SUPPLY CIRCUIT

- (75) Inventors: Jos Timmermans, Dearborn, MI (US); Jean C. Raymond, Montreal (CA)
- (73) Assignee: Altair Engineering, Inc., Troy, MI

(US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 375 days.

- (21) Appl. No.: 09/782,375
- (22) Filed: Feb. 12, 2001
- (65) Prior Publication Data

US 2002/0060526 A1 May 23, 2002

Related U.S. Application Data

- (60) Provisional application No. 60/181,744, filed on Feb. 11, 2000.
- (51) Int. Cl. *H05B-37/02* (2006.01)

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

4,581,687	Α		4/1986	Nakanishi	
4,748,545	A	*	5/1988	Schmitt	362/219
5,388,357	Α		2/1995	Malita	
5,463,280	A	•	10/1995	Johnson	315/187
5,575,459	Α		11/1996	Anderson	
5,607,227	Α		3/1997	Yasumoto et al.	
5,655,830	A		8/1997	Ruskouski	
5,688,042	Α	•	11/1997	Madadi et al	362/240
5,697,695	Α		12/1997	Lin et al.	

5,726,535	Α	•	3/1998	Yan 315/185 R
5,813,751		•	9/1998	Shaffer 362/222
5,890,794	Α	*	4/1999	Abtahi et al 362/183
5,924,784		•	7/1999	Chliwnyj et al 362/234
5,949,347	A	•		Wu 340/815.45
6,072,280	A	•	6/2000	Allen 315/185 S
6,158,882	Α	•	12/2000	Bischoff, Jr 362/488
6,305,109	B1	•	10/2001	Lee 40/546
6,325,651	BI	•	12/2001	Nishihara et al 439/232
6,371,637	Bl	•	4/2002	Atchinson et al 362/555
6,394,623	Bi	•	5/2002	Tsui 362/249
6,577,072	B1	•	6/2003	Saito et al 315/185 R
6,582,103	Bl	•	6/2003	Popovich et al 362/307
6,621,222	Bi	*	9/2003	Hong 315/51

OTHER PUBLICATIONS

Web page at http://trucklite.com/leds14.html printed on Jan. 13, 2000.

Web page at http://trucklite.com/leds2.html printed on Jan. 13, 2000.

Web page at http://trucklite.com/leds4.html printed on Jan. 13, 2000.

Web page at http://www.telecite.com/en/products/options_en.htm printed on Jan. 13, 2000.

Web page at http://www.dialight.com/trans.htm printed on Jan. 13, 2000.

Web page at http://www.ledlights.com/replac.htm printed on Jan. 13, 2000.

Lectronics, apparently 1996 Catalog, apparently cover page and p. 10.

* cited by examiner

Primary Examiner—Wilson Lee Assistant Examiner—Chuc Tran

(74) Attorney, Agent, or Firm—Young & Basile, P.C.

(57) ABSTRACT

The present invention provides a light tube for illumination by a power supply circuit including a bulb portion and a pair of end caps disposed at opposite ends of the bulb portion. A plurality of light emitting diodes are disposed inside the bulb portion and in electrical communication with the pair of end caps for illuminating in response to electrical current to be received from the power supply circuit.

26 Claims, 10 Drawing Sheets





















